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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

Bemben, Richard M

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/730,507	Applicant(s) KENT ET AL.	
	Examiner RICHARD M. BEMBEN	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-17 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-17 and 19-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Examiner acknowledges that item 60 of Figure 2 and items 60, 64, 174, 176 and 218 of Figure 3 are additional features not found in the prior art. Therefore, Examiner withdraws the objection of the drawings.
2. Applicant's arguments with respect to claims 1 and 12 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. **Claims 1-3, 6-8, 10, 12-14, 16-18 and 19-21 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,631,976 issued to Bolle et al., hereinafter "Bolle" in view of National Semiconductor's "LM1881 Video Sync Separator" datasheet.**

[Claim 1] Bolle discloses a system for capturing high-speed motion (c. 4, ll. 25-29), said system comprising:

- a video camera (c. 3, ll. 53-63; Fig. 1, "110");
- an infrared strobe light (c. 3, l. 64 – c. 4, l. 11; Fig. 1, "120");
- a circuit connected to said video camera and said infrared strobe light,

said circuit configured to fire said infrared strobe light as a result of receiving a signal from said video camera (c. 4, ll. 12-22; Fig. 1, "125"; "a circuit that responds to the vertical sync pulse of a video signal").

However, Bolle does not disclose that said circuit provides a pulse to the infrared strobe light and that said circuit is configured such that a width of the pulse is variable and is settable by a user.

National Semiconductor's LM1881 Video Sync Separator datasheet provide a pulse such that the width of the pulse is variable and settable by a user as a result of receiving a signal from a video camera (refer to pp. 4-6, "Application Notes", "Vertical Sync Output", the Vertical Sync Output is variable by setting Rset, also refer to p. 3, graph "Vertical Pulse Width vs Rset"). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to use the LM1881 Video Sync Separator disclosed by National Semiconductor as the "circuit that responds to the vertical sync pulse of a video signal" disclosed by Bolle in order to change the output intensity level of a light (as discussed in Bolle, c. 4, ll. 12-22).

[Claim 2] Refer to the rejection of claim 1 and National Semiconductor's LM1881 Video Sync Separator datasheet further discloses that said circuit is configured to output a pulse after a delay period (refer to p. 1, "General Description" – "externally set delay period"; also refer to pp. 4-6 and "Vertical Default Sync Delay Time vs. Rset" graph on p. 3).

[Claim 3] Refer to the rejection of claim 1 and National Semiconductor's LM1881 Video Sync Separator datasheet further discloses that said delay period is settable by a user (refer to p. 1, "General Description" – "externally set delay period").

[Claim 6] Bolle further discloses a video recorder connected to said video camera (c. 3, ll. 30-42; Fig. 1, "142").

[Claim 7] Bolle further discloses that the video recorder comprises a video cassette recorder (c. 5, l. 41; "video tape").

[Claim 8] Bolle further discloses that the video recorder has the ability to play back in a single frame mode (c. 5, ll. 58-62).

[Claim 10] Bolle further discloses that said circuit is configured to extract a vertical synchronization pulse from the signal received from said video camera and use said vertical synchronization pulse to provide a triggering signal to said infrared strobe light (c. 4, ll. 12-22).

Claim 12 is a method claim corresponding to apparatus claim 1. Therefore, claim 12 is analyzed and rejected as previously mentioned with respect to claim 1. Further, it is inherent that power is supplied to the system.

Claims 13 and 14 are method claims corresponding to apparatus claims 2 and 3, respectively. Therefore, claims 13 and 14 are analyzed and rejected as previously discussed with respect to claims 2 and 3, respectively.

Claims 16, 17 and 19 are method claims corresponding to apparatus claims 6, 7 and 10, respectively. Therefore, claims 16, 17 and 19 are analyzed and rejected as previously discussed with respect to claims 6, 7 and 10, respectively.

[Claim 20] Refer to the rejection of claim 1 and National Semiconductor's LM1881 Video Sync Separator datasheet further discloses a first manually-operable control for setting the pulse and a second manually-operable control for setting a delay (refer to pp. 4-6, "Application Notes", "Vertical Sync Output", the Vertical Sync Output is variable by setting Rset, also refer to p. 3, graph "Vertical Pulse Width vs Rset"; and refer to p. 1, "General Description" – "externally set delay period"; also refer to pp. 4-6 and "Vertical Default Sync Delay Time vs. Rset" graph on p. 3; note, claim does not require first and second manually-operable controls to be different switches, knobs, etc.)

Claim 21 is a method claim corresponding to apparatus claim 20. Therefore, claim 21 is analyzed and rejected as previously mentioned with respect to claim 20. Further, it is inherent that power is supplied to the system.

5. Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bolle in view of National Semiconductor's "LM1881 Video Sync Separator" datasheet in further view of Applicant's Admitted Prior Art (AAPA).

Regarding the Official Notice taken in claims 4 and 15: "To adequately traverse such a finding, an applicant must specifically point out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art [...]. If applicant does not traverse the

examiner's assertion of official notice or applicant's traverse is not adequate, the examiner should clearly indicate in the next Office action that the common knowledge or well-known in the art statement is taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate." See MPEP § 2144.03 [R-1]. Therefore, since the applicant did not specifically point out the supposed errors in the examiner's action the (Official Notice) common knowledge or well-known in the art statement is taken to be admitted prior art.

[Claim 4] Bolle discloses an infrared video camera. However, Bolle does not expressly state that an infrared bandpass filter over a lens is used to capture only infrared radiation. AAPA discloses that it is notoriously well known in the art to use an infrared bandpass filter over a lens of a video camera in order to use a standard video camera to capture only infrared radiation.

Claim 15 is a method claim corresponding to apparatus claim 4. Therefore, claim 15 is analyzed and rejected as previously mentioned with respect to claim 4.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bolle in view of National Semiconductor's "LM1881 Video Sync Separator" datasheet in further view of U.S. Patent No. 6,618,123 issued to Uomori et al., hereinafter "Uomori".

[Claim 5] Bolle in view of National Semiconductor discloses a system for capturing high-speed motion comprising a video camera and an infrared strobe light (refer to the rejection of claim 1). Boll in view of National Semiconductor further

discloses that the infrared strobe light can be “any electromagnetic energy source” (c. 3, l. 64). However, Boll in view of National Semiconductor does not expressly disclose that the infrared strobe light comprises a LED strobe.

Uomori discloses a system comprising a video camera and an infrared strobe light comprising a LED strobe (c. 5, l. 65 – c. 6, l. 9; Figs. 1 & 2). Therefore, it would have been obvious to use a LED as disclosed by Uomori in the infrared strobe light disclosed by Boll in view of National Semiconductor because LEDs are well known, cost-effective, highly-efficient light sources.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bolle in view of National Semiconductor’s “LM1881 Video Sync Separator” datasheet in further view of “Video Sync Separator for Your Oscilloscope” by Steve Pence.

[Claim 11] Bolle in view of National Semiconductor discloses a system for capturing high-speed motion (refer to the rejection of claim 1). Bolle in view of National Semiconductor further discloses a circuit that extracts a vertical synchronization pulse from the signal received from the video camera and uses said vertical synchronization pulse to provide a triggering signal to the infrared strobe, this triggering signal having a variable width settable by a user (refer to the rejection of claim 10). However, Bolle in view of National Semiconductor does not explicitly disclose said circuit comprises a video input, a buffer phase shifter circuit connected to said video input, a clamp circuit connected to said buffer phase shifter circuit, a synchronization separator connected to

said clamp circuit, a vertical pulse separator connected to said synchronization separator, a variable delay single shot circuit connected to said vertical pulse separator, a variable pulse width single shot circuit connected to said variable delay single shot circuit, and a trigger output connected to said variable pulse width single shot circuit.

Pence discloses a circuit for extracting a vertical synchronization pulse from the signal received from the video signal and using the vertical synchronization pulse to provide a triggering signal comprising a video input, a buffer phase shifter circuit connected to said video input, a clamp circuit connected to said buffer phase shifter circuit, a synchronization separator connected to said clamp circuit, a vertical pulse separator connected to said synchronization separator, a variable delay single shot circuit connected to said vertical pulse separator, a variable pulse width single shot circuit connected to said variable delay single shot circuit, and a trigger output connected to said variable pulse width single shot circuit (pp. 1-3; Figs. 1 & 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that the circuit comprise the mentioned components as disclosed by Pence in the system disclosed by Bolle in view of National Semiconductor in order to provide a trigger signal to a display or other device from a video input, which is notoriously well known in the art.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD M. BEMBEN whose telephone number is (571)272-7634. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2622

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RMB

/Nhan T. Tran/
Primary Examiner, Art Unit 2622